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11-2003


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European food-safety concerns: From farm to market

In May of this year, 14 students from Iowa State University (ISU) had the opportunity to visit England and Scotland to examine food-safety issues, with emphasis on increasing the exposure to and understanding of European food-safety concerns, farming practices, the regulatory environment, research activities, and consumer attitudes.

The trip was conceived as a three-credit course of study that involved preparatory background research, seminars, and written evaluations. Early in the planning, a concerted attempt was made to develop an overall perspective inclusive of the multifaceted character of European agriculture and agriculture-related business. The itinerary was prepared to gain access to a wide range of commercial and political viewpoints and included discussions with representatives of various producers, processors, government agencies, public-action groups, consumer groups, and university researchers. Trip costs were partially underwritten by Cargill International (Minneapolis, Minnesota), with the remainder of the funding coming from ISU's College of Agriculture and the participants.

The Travelers

The trip was supervised by Bonita Glatz, professor, Department of Food Science and Human Nutrition; and AOCS Vice President Lawrence Johnson, professor, Department of Food Science and Human Nutrition, and director of the Center for Crops Utilization Research.

The nine women and five men selected to participate were a diverse multicultural group representing a broad range of disciplinary backgrounds in animal science, agricultural biochemistry, agricultural and biosystems engineering, agricultural meteorology, journalism, food science and human nutrition, and toxicology.

Cargill Europe

First stop on the team's itinerary was Cargill's European headquarters, located in Cobham, south of London, for a reception and briefing on the company history, vision, European

Students and faculty from Iowa State University, Ames, visited England and Scotland last spring to learn other countries' approach to food-safety issues. The Cargill dry-milling operation in Liverpool, England, was one of their site visits.



operations, and current food-quality and safety issues.

One of the key issues discussed at the Cargill Europe headquarters meeting was the concept of public trust in "branded" identities, and the students learned that public perception of "good and bad" identities is far different on the opposite sides of the Atlantic. The most trusted names in the United States tend to be businesses with solid reputations for providing consistent quality products (Microsoft, Coca-Cola, and McDonalds), whereas the most trusted names in Europe tend to be image-intensive public-interest action groups (Amnesty International, World Wildlife Fund, and Greenpeace).

Cargill has been targeted by Greenpeace's campaign against genetically modified organisms (GMO) and corporate agriculture. The company perspective on these issues was discussed, as well as those issues relative to related issues like the actual scientific merit of Greenpeace's opposition to GMOs, the perceived relative quality of organic food, and food affordability. With respect to European organic food production, in some cases, the product may be of higher quality, but the microbial load that results from the manure fertilizers presents a number of unique con-

tamination problems and food-safety issues. Affordable food is an issue when one considers that European organic products are oftentimes more expensive to produce, and sell at premium prices, compared with mainstream food products. For this reason, some consumers could be forced to procure more expensive food from far more limited sources than the alternative provided by "industrial farming." Additionally, moves away from industrial farming could reduce available world food and food-aid supplies and increase or exacerbate world-hunger situations.

A discussion of ongoing European food-safety issues in the wake of the BSE crisis included a discussion of the European Union (EU) regulatory environment and the establishment of the European Food Safety Agency.

The group then toured the Cerestar International corn wet-milling plant at Tilbury. This processing facility is located on the Thames River just east of London. Cerestar is based in Mechelen, Belgium, and was recently purchased by Cargill. Major product lines of this particular plant are high-dextrose equivalent (DE) syrups used for industrial fermentation processing and brewing.

The Cargill dry-milling operation in Liverpool involves the mechanical separation of corn into its constituents. The main recovered component is the endosperm, which is made into flaking grits. The plant, which also processes wheat, is the largest of its kind in Europe, and there are only two like it in the United States. Automation allows the plant to operate around the clock with three shifts of nine people each. Most of the flaking grits produced at the plant are sent to the Kellogg's (Battle Creek, Michigan) cereal plant in Manchester, England, and other products from the process, including coarse grits, brewers grits, snack meal, cones, and flour, are marketed to other manufacturers.

Greenpeace visited

The group talked with Charlie Kronick, Greenpeace science advisor. A social scientist by academic background, he has led Greenpeace's campaign against GMOs in the United Kingdom.

According to Kronick, Greenpeace is an advocate for sustainable agriculture and against GMOs. It holds that world hunger is not an issue of limited *availability* of food, but rather of limited *access* to food. Greenpeace believes the right of European consumers to say "no" to GM food is under threat from the United States. Greenpeace promotes its agenda through media events.

The student group, largely unbiased or tending to favor the Greenpeace identity at the start of the meeting, came away with a variety of opposing views regarding the organization. One student noted: "Greenpeace claims the moral high ground regarding various issues they advocate, but we believe that their actions are ethically questionable. In today's society, consumers are easily impressionable; Greenpeace's negative campaign regarding GMOs extends beyond their impact on the environment and suggests that they have a negative impact on human health. What would consumers' reaction be to the statement made by Mr. Kronick that Greenpeace has no 'actual knowledge' concerning the impact of GMOs on physical health?" Another student responded: "Mr. Kronick represented Greenpeace rather well. He answered questions in a casual but intellectual way and adeptly avoided specific responses at times in favor of reiterating his core message."

Overall, the group concluded that the Greenpeace organization is interested in directing their efforts for social change through strategically planned media events that are actions directed at established positions of political and corporate power; the actual sci-

entific merit of the arguments regarding the issues involved tends to be far less important to the Greenpeace organization than the long-term effect on public perception resulting from the action itself.

Harrods food department

For a look at upscale food retailing, the group toured the Harrods food market department. Not your usual grocery store, the "Palace in Knightsbridge" is one of the most recognized retailing names in the world. Most of the students found the store quite unlike anything they had ever experienced in the United States. With designer décor and perhaps the best selection of gourmet and specialty foods in the world, Harrods is a standard by which others are measured.

The guide for the morning was Richard F. Jones, manager of the food department, a 40-year employee of Harrods. Regaling the visitors with anecdotes, he was also a font of information about operational aspects of the store.

The food department is located on the first floor, right in the middle of the jewelry and purse departments. The food department occupies several rooms, with dedicated presentation rooms for meat and fish, and others for produce and flowers. A department specializing in wine and cigars was downstairs, as was a room dedicated to chocolate and high-end chocolate products.

The available food selections were incredibly diverse, including ethnic foods. According to Jones, the store purchases from small suppliers as well as well-known brands. The store employs 125 bakers and makes 90% of its bread.

Harrods takes great pride in (and care for) the quality of its food. Three department heads venture out at 2 a.m. daily to procure fresh meat, fish, and vegetables. All of the store's beef comes from Scotland and all of their lamb from England. Two or three times a year the heads of these divisions go out to their farm suppliers to make sure that their animals are being raised in accordance with Harrods standards; this was a bit of a problem during the foot-and-mouth epidemic simply because the inspectors had to wash their feet so often. But Harrods encountered no other problems or losses due to this outbreak. During the BSE scare, Harrods did not suffer financially because of their well-established image of quality. For awhile, Harrods could sell certain types of meat that contained bone (e.g., T-bone steaks) for pet consumption only, yet the store still had good sales. Jones quipped that there must be a lot of well-fed pooches in London.

Harrods employs a food-hygiene team that rigorously screens and monitors suppliers. The store gives suppliers two chances to correct any identified problems before they quit doing business with them.

In the store, the food-hygiene team keeps a close eye on the food, shelves, and storage areas for bacterial contamination. Any problems are quickly dealt with. At night, all food on display is moved to large refrigerators under the building so the shelves can be cleaned.

Occasionally, Harrods must deal with product recalls. Products carrying the Harrods brand have yet to be recalled, noted Jones, but they receive notices for other products about once a week. Since the notice usually refers to products that they don't carry, they rarely have to act on the recall. When asked why eggs were displayed nonrefrigerated, Jones said that the British government says stores are not supposed to refrigerate eggs. Another interesting thing that the students noticed was that the butchers did not wear gloves. The students were informed that gloves were too slippery for the proper handling of knives, and that knife accidents could result in butchers' blood mixing with the meat products.

Harrods recently has initiated a "traceability program" for their meat products. Upon demand, or upon a label, a customer can read about the animal, its lineage, feed, date and location of slaughter, etc. However, this has yet to be implemented simply because it has proven to be a logistic and paperwork nightmare. GMOs are sold in Harrods but they are clearly labeled. Irradiated meat is not sold at all because Harrods prefers to present itself as a store that offers traditional products.

The Royal Agriculture College of the U.K.

In Cirencester, the group visited the Royal Agriculture College, which was founded in 1845 as the first agriculture college in the English-speaking world. Privately funded until a few years ago, it is now a public institution. Its focus is on agriculture, the rural economy, and the food-production industry. The college does not do any extension/outreach, as there is no government support of such activities. Professor John Alliston discussed the current state of agriculture in the United Kingdom: farm income has dropped significantly as the government has abandoned food self-sufficiency and maintains a huge import/export deficit as part of its philosophy that cheap food is important for economic prosperity. Meanwhile, farmers are

concerned about the absence of controls on imported food and the danger of disease being brought into the United Kingdom in contaminated food products, especially meats.

The Scottish Crops Research Institute

The Scottish Crops Research Institute in Dundee, Scotland, is working on improving nutrient content of food for consumers, as well as some GM crop technology. Howard Davies addressed the group regarding the GMO controversy. He mentioned several pertinent points, including:

- Since 1998, no further authorizations of GM foods have been made in the E.U.;
- One in four Europeans believes that current GM regulations are sufficient; and
- The public wants a no-risk guarantee with GM foods, but there is no way that science can prove the absence of risk. Additionally, the public does not trust scientists because they are seen as doing nothing in the wake of recent food scares, coupled with the fact that scientists have no visible role in edu-

cating the public regarding GMOs. Because the public has a very low level of basic scientific education, when the public does hear from scientists, they frequently cannot comprehend the issues or judge the validity of respective arguments.

Europe has a new directive on release of GMOs into the environment and is making new regulations about traceability and labeling of all GM foods. A key issue in Europe is that there is not enough land to isolate GM, traditional non-GM, and organic crops from one another. A GM product must go through a rigorous risk assessment for approval, even if science says it is safe. It could be argued that GM foods are safer than non-GM foods that do not go through the same testing. It was Davies' opinion that as soon as a farmer and a retailer are brave enough to produce and sell GM foods, people will buy the GM product and forget about the scare tactics of the media and groups like Greenpeace. He noted that most people in Europe don't realize that most soy food is made from GM crops, and they already consume a great deal of it.

Other tour visits

Other stops on the educational tour included the Colindale Epidemiology Center; the London School of Hygiene and Tropical Medicine; the David Parker grain farm at Shirburn (near Oxford), England; a farmer's market in the village of Stroud, England (where the students had some reservations regarding food safety when they observed warm-temperature storage of eggs and meat products); the Frank Jukes dairy farm in the Cotswolds area of England; the University of Abertay at Dundee, Scotland; the Colin Mitchell beef cattle and sheep farm at St. Andrews, Scotland; the organic farm at Elmwood College in Cupar, Scotland; and the Glenturret Distillery in Crieff, Scotland.

Student Cindy Landgren summed up the experience this way: "We explored the [food supply] spectrum from farm to fork and were able to view the differences and similarities of the English, Scottish, and European systems compared to our own. . . . I think every student gained knowledge that will aid in our current education as well as dealing in global agriculture in the future." ■

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